

A LIST OF EXOTIC TREES AND SHRUBS AFFECTED
BY AUSTRALIAN LORANTHS AND VISCUMS.

BY FRED. TURNER, F.L.S., &c.

It is now some years since I began to make observations on exotic trees and shrubs which have become hosts for certain Australian parasitical plants.

During the past year I have had peculiar facilities for making extended observations, having travelled nearly all over the Colony; and for a great part of that time I was engaged in reporting on the capabilities of Crown lands, and the best means of utilising them, for the Government of New South Wales.

I am not aware that any observations have hitherto been published on this subject in New South Wales. Therefore I have written this paper with a view to placing on record such exotic trees and shrubs as I have seen the indigenous parasitical plants growing upon, so that persons who are interested in the subject may be induced to make new observations.

Although I have recorded twenty-seven species, besides numerous varieties of exotic trees and shrubs which are hosts for certain Australian parasitical plants, it must not be thought that the list is exhaustive. What appears to me to be very remarkable is the great dissimilarity between the exotics upon which Australian parasitical plants have established themselves.

In the coastal districts, as far as my observations go, it would appear that exotic trees and shrubs are more infested with indigenous parasitical plants than in the interior. This, however, is, I think, easily accounted for. Orchards and gardens have not only been longer established in the coastal districts than in the interior, but the number of exotics, in proportion to the indigenous vegetation, is much greater in the former than in the latter portion of the Colony.

It does not appear that exotic trees and shrubs having a rough bark, which one would naturally suppose offered greater facilities for the seeds of parasitical plants to lodge and germinate, are more suitable as hosts than those having a smooth bark. An illustration of this is found in the oriental plane (*Platanus orientalis*, Linn.), on the very smooth bark of which I have seen many Loranthus growing. Many smooth-barked deciduous fruit trees appear to be particularly infested with species of the genera *Loranthus* and *Viscum*.

Since I have drawn attention to these parasitical plants in different parts of the country, it has often been a fruitful source of conjecture as to how they became established on exotic trees and shrubs. After giving some thought to this subject, I think there can be little doubt that birds, some of which are known to eat the fruits of the species of the genera *Loranthus* and *Viscum*, void the seeds, or carry the one-seeded viscid crushed fruits in, or attached to, their claws, or on the sides of their beaks, and leave them on the branches or in the forks of the trees and shrubs when visiting them, either to eat the fruits they yield or to rest themselves.

Several writers have asserted that the leaves of the indigenous Loranthus assume the character of those of their hosts, more particularly when growing upon different species of *Eucalyptus*, *Casuarina*, *Banksia*, &c. However this may be with regard to the indigenous vegetation, this leaf-mimicry, so far as my observations go, does not take place when the native parasitical plants are growing upon exotic trees and shrubs. It seems to be a matter of very little consequence what kind of exotic tree or shrub the native parasitical plants may grow upon, their botanical characteristics are not altered to any very great extent.

The indigenous parasitical plants which I have seen growing on exotic trees and shrubs in this country are—*Loranthus celastroides*, Sieb., *L. pendulus*, Sieb., and *Viscum articulatum*, Burm., the first two named being much more common than the last.

The following are the botanical names, common names, and also the habitats of the trees and shrubs upon which I have seen Australian parasitical plants growing.

Order—MAGNOLIACEÆ.

- ILLICIAM ANISATUM, Linn. ; Star Anise ; China and Japan.
 MAGNOLIA FUSCATA, Andr. ;* Chinese Tulip-tree ; China.
 LIRIODENDRON TULIPIFERA, Linn. ;† Tulip-tree ; N. America.

Order—RUTACEÆ.

- CITRUS AURANTIUM, Linn. ; Orange, in var. ; S. Asia.

Order—LEGUMINOSÆ.

- ROBINIA PSEUDACACIA, Linn. ; Locust-tree ; America.
 GLEDITSCHIA TRIACANTHOS, Linn. ; Honey Locust ; N. America.
 INGA PULCHERRIMA, Cerv. ; Soldier-bush ; Mexico.

Order—ROSACEÆ.

- PRUNUS PERSICA, Benth. et Hook. ; Peach‡ and Nectarine, in var. ;
 Persia and China.
 PRUNUS DOMESTICA, Linn. ; Plum, in var. ; Europe.
 ARMENIACA VULGARIS, Lam. ; Apricot, in var. ; Central Asia.
 PYRUS COMMUNIS, Linn. ; Pear, in var. ; Europe.
 PYRUS MALUS, Linn. ; Apple, in var. ; Europe.
 PYRUS CYDONIA, Linn. ; Quince, in var. ; Europe.
 CRATEGUS OXYACANTHA, Linn. ; Hawthorn ; Europe.

Order—OLEACEÆ.

- OLEA EUROPEA, Linn. ; Olive, in var. ; Europe.

Order—APOCYNACEÆ.

- NERIUM OLEANDER, Linn. ; Oleander, in var. ; East Indies.

* The Honorable Dr. J. Norton, M.L.C., first called my attention to the *Loranthus* growing upon this shrub.

† Mr. C. Hedley, F.L.S., first directed my attention to the *Loranthus* growing upon this tree.

‡ Mr. J. J. Fletcher first called my attention to *Viscum articulatum*, Burm., growing on this tree. I do not remember ever having seen this parasitical plant growing upon any other exotic tree or shrub in Australia, nor upon any native tree but *Doryphora sassafras*, Endl.

Order—EUPHORBIAEÆ.

STILINGIA SEBIFERA, Michx. ; Tallow-tree ; China.

Order—URTICAEÆ.

ULMUS MONTANA, Sm. ; Mountain elm ; Europe.

PLANERA ACUMINATA, Michx. ; Japanese elm ; Japan.

Order—BETULAEÆ.

ALNUS GLUTINOSA, Linn. ; Alder ; Britain.

Order—PLATANAEÆ.

PLATANUS ORIENTALIS, Linn. ; Plane-tree ; S. Europe.

Order—JUGLANDEÆ.

JUGLANS CINEREA, Nutt. ; Butter-nut ; N. America.

JUGLANS REGIA, Linn. ; Walnut ; Persia.

Order—CUPULIFERÆ.

QUERCUS COCCINEA, Wnglm. ; Red oak ; N. America.

QUERCUS PEDUNCULATA, Willd. ; Oak ; Europe.

QUERCUS LUSITANICA, Willd. ; Portugal oak ; Portugal.

Order—SALICINEÆ.

SALIX BABYLONICA, Tourn. ; Weeping willow ; Levant.

It will be observed, in the above list, that the species and varieties arranged under the Order *Rosacea* furnish more host plants than do the species and varieties arranged under any other Order. I do not take this as an indication that Australian parasitical plants prefer, or grow better upon, Rosaceous plants than upon those that are arranged under any other Order. I would rather look at it from a different stand-point. When it is taken into consideration that the greater number of orchards in New South Wales are planted with Rosaceous trees, and that many Australian birds are so fond of the fruits which they bear, I think that the feathered tribe, as I have already explained, is the principal cause of so many Rosaceous trees being infested with Australian parasitical plants.